

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A superconducting material ~~of~~ having a formula  $MgB_xSi_yC_z$ , where  
X is a number in the range between 0 to 2,  
Y is a number in the range between 0 to 1, ~~and~~  
Z is a number in the range of 0 to 1, and  
wherein the sum of X, Y and Z is greater than or equal to 2.
2. (Currently Amended) ~~A~~ The superconducting material in accordance with claim 1, wherein  
X is a number in the range between 1 ~~to~~ and 2, Y is a number in the range between 0.05 ~~to~~ and 0.5,  
and Z is a number in the range between 0.1 ~~to~~ and 0.3.
3. (Original) A superconducting material in accordance with claim 1, where X is in the range of 1.2 to 1.8, Y is in the range of 0.1 to 0.3, and Z is in the range 0.1 to 0.3.
4. (Currently Amended) A superconductor incorporating the superconducting material of claim 1, ~~claim 2 or claim 3.~~
5. (Original) A method of synthesising the superconducting material of claim 1 comprising the step of utilising starting materials Mg, B, Si and C.
6. (Currently Amended) A method in accordance with claim 5, wherein the starting materials are ~~in powder form~~ powders.

7. (Original) A method in accordance with claim 6, wherein the powders consist of nanoparticles.
8. (Original) A method of synthesising the superconducting material of claim 1, comprising the a step of utilising starting materials Mg, B and SiC.
9. (Currently Amended) A method in accordance with claim 8, wherein the starting materials are ~~in powder form~~ powders.
10. (Original) A method in accordance with claim 9, wherein the powders consist of nanoparticles.
11. (Currently Amended) A method of synthesising the superconducting material of claim 1, comprising the step of utilising starting materials MgB<sub>2</sub> and SiC ~~or Si and C~~.
12. (Currently Amended) A method in accordance with claim 11, wherein the starting materials are ~~in powder form~~ powders.
13. (Original) A method in accordance with claim 12, wherein the powders consist of nanoparticles.
14. (Cancelled)
15. (Cancelled).
16. (Cancelled)
17. (Cancelled).

18. (Currently Amended) A superconducting material ~~of the formula of~~ having formula  $\text{MgB}_x\text{Ti}_y\text{C}_z$ , wherein X is a number in the range ~~between~~ of 0 to 2 and greater than 0, Y is a number in the range ~~between~~ of 0 to 1 and Z is a number in the range of 0 to 1, and wherein the sum of X, Y and Z is greater than or equal to 2, ~~and X is greater than 0~~.

19. (Currently Amended) A method of manufacturing a material capable of functioning as a superconductor, comprising the steps of

- mixing elemental magnesium and elemental boron with an amount of one or more of the group ~~comprising~~ consisting of silicon carbide and titanium carbide, and
- heating ~~the powders mixture~~ to sinter the ~~powders mixture~~ into a material capable of functioning as a superconductor.

20. (Currently Amended) A method of manufacturing a material capable of operating as a superconductor, comprising the steps of

- mixing elemental magnesium and elemental boron with an amount of one or more of the group ~~comprising~~ consisting of elemental silicon, elemental carbon and elemental titanium, and
- heating ~~the~~ mixture to sinter the mixture into a material capable of functioning as a superconductor.

21. (Currently Amended) A method in accordance with claim 20, wherein the mixture is heated to a temperature in the range between 650°C ~~to~~ and 2000°C.

22. (Original) A method in accordance with claim 20, wherein the mixture is heated to a temperature in the range of 900-950°C.
23. (Currently Amended) A method in accordance with claim 20, wherein the elements are provided ~~in a powder form~~ as powders.
24. (Original) A method in accordance with claim 23, wherein the powders consist of nanoparticles.
25. (Currently Amended) A method in accordance with claim 20, wherein the powders are groove-rolled into a tube manufactured from a material of one or more of the group ~~comprising~~ consisting of iron (Fe), copper (Cu), nickel (Ni) and stainless steel prior to heating the mixture.
26. (Original) A method in accordance with claim 20, comprising the further step of cooling the resultant material to the temperature of liquid nitrogen, to render the material capable of superconducting.
27. (New) The method of synthesizing the superconducting material of claim 1, comprising a step of utilizing starting materials  $\text{MgB}_2$ , Si and C.
28. (New) The method in accordance with claim 27, wherein the starting materials are powders.
29. (New) The method in accordance with claim 28, wherein the powders consist of nanoparticles.